



Department of Energy
Office of Legacy Management

JAN -3 2008

Mr. Don Aragon, Executive Director
Wind River Environmental Quality Commission
Building 10, Washakie Street
Fort Washakie, Wyoming 82514


Subject: Riverton, Wyoming, UMTRA Title I Site —DOE Response to Wind River Environmental
Quality Commission Comments on the Long-Term Management Plan

Dear Mr. Aragon:

Enclosed are the Department of Energy's responses to the Wind River Environmental Quality Commission's comments on the *Long-Term Management Plan for the Riverton, Wyoming, Processing Site* (LTMP). The LTMP is a document that outlines long-term management activities to ensure the protectiveness of human health and the environment and is a reflection of the Groundwater Compliance Action Plan. Language in the LTMP allows revision of the document as site conditions change.

I look forward to discussing specific issues at our next project meeting. Please contact me at 970-248-6016 if you have any questions.

Sincerely,


Jalena Maestas
Site Manager

Enclosure

cc w/enclosure:

J. Arum, Ziontz, Chestnut, Varnell, Berley, and Slonim
B. Crocker, Baldwin and Crocker
J. Redman, Northern Arapaho Utility
B. Von Till, Nuclear Regulatory Commission
D. Wolf, Sonosky, Chambers, Sachse, Endreson, and Perry
File: RIV 030.10(A) (DOE)

cc w/o enclosure:

S. Campbell, Stoller (e)

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Riverton, Wyoming

Response to LTMP Comments

General Comments:

The Northern Arapaho Utility Organization operates the alternate water supply system. DOE would assume the safety and viability of system would be included as part of their maintenance and compliance management practices. Funding for maintenance and management are typically included as part of the monthly service fee paid by users.

A DOE study was conducted to ensure that any site related contaminants were and would not compromise the integrity of the water supply now or in the future (July 2005). Elevated levels of radionuclides in the water system were the result of inadequate system flushing as part of the on-going maintenance program (bio-film build-up which is not foreign to a water system and reduced by periodic flushing practices). A report will be issued on the effectiveness of the flushing program is scheduled for release in FY2008. If findings indicate a hazard due to DOE activities the LTMP will be revised to reflect such a change and any changes required to assure protection of human health will be developed at that time. Early indications are that, the safety and viability of the Alternate Water System is dependent on maintenance by NAUO, and specifically routine periodic flushing.

DOE believes that until conclusive evidence is presented and discussed between WREQC and DOE a monitoring program addressing sediment and biota (flora and fauna) sampling is not appropriate to include in the LTMP. The recent study conducted by WREQC concluded that biota studies were ultimately inconclusive, and sediment results are not effectively and definitively traced back to uranium milling processes. The development of a Contaminants of Potential Environmental Concern (COPEC) (in essence) was already done and analyzed resulting in monitoring for constituents that were definitively traceable to former uranium milling activities and are capable of being mobilized. *Work performed* by WREQC under the Cooperative Agreement during this year will be evaluated and then considered whether it is appropriate to be included in a long-term monitoring program document.

DOE's monitoring activities are the result of extensive site characterization. COC's are the result of isolating contaminants that are exclusive to former uranium milling processes and are unaffected by ambient contamination resulting from naturally occurring or adjacent property activities. During this process potential contaminants are reviewed and the result is a list of COC's that DOE monitors and is responsible for.

2.5 Institutional Controls (IC's):

IC's required by the GCAP are currently functioning as intended (to prevent domestic water use from the uppermost aquifer). The alternate water supply system flushing report will be issued after the November 2007 flushing event, and if contaminants that are traceable indicators to former milling activities are detected DOE will assess the situation and take the appropriate action. See the LTMP Section 3.1.3.1.

3.1.1 Ground Water Monitoring:

Riverton, WY is designated as a UMTRA site and DOE will adhere to the statute guidelines, and will be responsible for contamination (Uranium and Molybdenum) that is definitively traceable to former uranium milling activities. As part of UMTRA and the GCAP, the natural flushing criterion is based on EPA ground water standards, 40 CFR 192, which requires clean-up standards, be based on MCL's established by EPA.

According to UMTRA, DOE has a 100-year window to reduce Uranium and Molybdenum to MCL standards or background levels. Before the GCAP could be accepted by NRC, DOE had to prove this was possible within the allotted time.

When the Riverton, WY site was characterized it was determined that the recently formed Oxbow Lake, would be monitored to ensure uranium and molybdenum concentrations decline to meet clean-up goals. The GCAP recognizes this area as contaminated ground water discharging and surface water mixing zone, and determined that this exposure pathway does not create unacceptable ecological risks (but will be monitored). Ground water discharging into The Little Wind River has been proven diluted virtually instantaneously. Again, indicator constituents that are sufficiently distributed to form volumetric aqueous plumes (Uranium and Molybdenum) are exclusive to former milling activities are of concern to DOE.

DOE monitors/evaluates surficial and semi-confined aquifer (uppermost). Wells are in place to monitor for any vertical migration and if DOE detects any possibility of cross-contamination that issue will be evaluated and DOE will respond appropriately. See LTMP Sections 2.3 and 3.1.1.1, 3rd paragraph.

As validated and indicated by NRC and the GCAP; DOE monitors for constituents in the GCAP, which have been found to be indicators of DOE's responsibility and liability. In a high iron environment it is not uncommon for Molybdenum and Uranium to become less soluble when certain iron isotopes are present. Sample results indicate that Molybdenum and Uranium are mobile at the site and are providing data on the plume.

3.1.3.1 Sampling:

We will change the first sentence if so desired to "domestic wells within the IC boundary..."

DOE will verify water use at selected locations because these wells are not currently used as potable water sources because these individuals have since connected to the municipal water system. DOE verifies these wells to ensure continued inactivity. In addition, DOE verifies uses of other existing ground water sources within the IC boundary, see LTMP Section 3.1.3.2.

3.1.2 Surface Water Monitoring:

DOE will monitor the selected surface locations for COC's which will indicate how the aquifer is behaving laterally and if discharge is occurring at these surface locations. In essence this monitoring is evaluating how the groundwater is interacting with surface

water. If the issue was to arise, Section 3.4 of the LTMP will be exercised, and discussion between DOE, NRC, WREQC and the State of Wyoming EQ would need to occur.

3.2 Maintenance Access and Reports:

DOE can place an advertisement in the local newspaper that will run for a week notifying the public the completed reports. Any public concerns may be effectively channeled through their tribal representative and presented at the semi-annual meetings.

3.4 Review and Revision:

The expected progress of natural flushing is based on model predictions and validated using sampling results to determine if model predictions are being met and DOE will meet the required 100 year clean-up goal.

DOE will and must adhere to the UMTRA statute as regulated by NRC.

The Cooperative Agreement is a stand alone contract and will be renewed, modified and/or extended as necessary. The Cooperative Agreement is planned to provide language to re-establish DOE and tribal commitments to the alternate water supply system, and it is the means to meet the institutional controls DOE must assure remains viable per the GCAP.